



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,275	12/16/2003	Tilo Dittrich	DT-6692	6164
30377	7590	10/07/2004	EXAMINER	
DAVID TOREN, ESQ. SIDLEY, AUSTIN, BROWN & WOOD, LLP 787 SEVENTH AVENUE NEW YORK, NY 10019-6018			DURAND, PAUL R	
			ART UNIT	PAPER NUMBER
			3721	

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/737,275

Applicant(s)

DITTRICH ET AL.

Examiner

Paul Durand

Art Unit

3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehmig (US 6,257,476) in view of Suckewer et al (US 6,321,733).

Ehmig discloses the invention substantially as claimed including an explosive operated tool (no number given), with an ignition system comprised of electrode 7 and 8

Art Unit: 3721

arranged on support 6 (see Fig. 1 and C2,L37 – C3,L19). What Ehmig does not disclose is the use of an outer annular electrode concentric with an insulator. However, Suckewer teaches that it is old and well known in the art of ignition systems to provide a support 90, insulator 22 arranged in support, pin shaped electrode 18, arranged in the insulator, channel (no number given, but generally indicated near arrow 24) and outer annular electrode 20, supported in support 90 and surrounding the insulator for the purpose of propagating a spark to enable combustion (see Figs. 2,3,5 and C10,L34-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Ehmig with the ignition system of Suckewer for the purpose of propagating a spark to enable combustion.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehmig and Suckewer et al in view of Mitchell (US 3,748,770).

The modified invention of Ehmig discloses the invention substantially as claimed as applied to claim 1 above except for the insulator having a conical section. However, Mitchell teaches that it is old and well known in the art to provide an insulating section 30, which has a conical section that opens in a direction toward a channel 22 for the purpose of efficiently firing a spark (see Fig. 1 and C2,L18-37). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Ehmig with the insulating means as taught by Mitchell for the purpose of efficiently firing a spark.

Art Unit: 3721

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehmig and Suckewer et al in view of Mitchell as applied to claim 3 and in further view of Srinivasan et al (US 5,947,476).

In regard to claim 3, the modified invention of Ehmig discloses the invention substantially as claimed as applied to claims 1 and 3 above except for the pin electrode opening at an angle. However, Srinivasan teaches that it is old and well known in the art to provide a ignition system with outer electrodes 80, insulator 76 and pin electrode 78, with which has a conical section that opens in a direction toward a channel 22 for the purpose of efficiently firing a spark (see Fig. 4 and C5,L51 – C6,L9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Ehmig with the electrode means as taught by Srinivasan for the purpose of efficiently firing a spark.

In regard to claim 4, while the modified invention of Ehmig does not specifically state that the conical angle of the electrode is smaller than that of the insulator, it would have been an obvious matter of design choice to make the conical angle of the electrode is smaller than that of the insulator, since applicant has not disclosed that making the conical angle of the electrode is smaller than that of the insulator solves any stated problem or is for any particular purpose and it appears the invention would do equally well with a conical angle of the pin similar to that of the insulator.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehmig and Suckewer et al in view of Giardini (US 4,203,393).

Art Unit: 3721

In regard to claim 5, the modified invention of Ehmig discloses the invention substantially as claimed as applied to claim 1 above except for a sleeve formed inside the insulator. However, Giardini teaches that it is old and well known in the art to provide a sleeve in the form of discharge chamber 34, which is formed partially inside insulator 33 for the purpose of efficiently propagating a spark (see Fig 2 and C4,L67 – C5,L3). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Ehmig with the discharge means as taught by Giardini for the purpose of efficiently propagating a spark.

In regard to claim 6, while the modified invention of Ehmig does not disclose the use of the sleeve being manufactured from ceramic, it would have been obvious to one having ordinary skill in the art at the time the invention as made to have manufacture the sleeve from ceramic material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of it's suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

8. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehmig and Suckewer et al

In regard to claims 7 and 8, Ehmig discloses the invention substantially as claimed as applied to claim 1 above except for the annular insulator being arranged as a cover. However, Giardini teaches that it is old and well known in the art to provide an annular electrode 20 formed as a cover, with a side bulge (no number given) and secured on a support 90 with threads 19 for the purpose of attaching an ignition device

Art Unit: 3721

to an object (see Figs 2,3,5 and C10,L34-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the invention of Ehmig with the ignition system of Suckewer for the purpose of attaching an ignition device to an object.

In regard to claim 9, While Ehmig does not disclose axial play between the threads, the examiner takes Official Notice that it is inherent in threaded connections to have axial play between mating threads as a means of allowing attachment to an object and to adjust the required tension between the threads during tightening. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have specifically provided the invention of Ehmig with axial play in the threads for the purpose of adjusting the required tension between the threads during tightening.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sheheen, Cota, Harden, Matthews, Boothby, Robinson, Ripma and Fletcher have been cited to show devices having similar structure..

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Durand whose telephone number is 703-305-4962. The examiner can normally be reached on 0730-1800, Monday - Thursday.

Art Unit: 3721

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I Rada can be reached on 703-308-2187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Durand  
October 6, 2004



EUGENE KIM  
PRIMARY EXAMINER